

### **Allegation of 'New Matter' In Specification Is Not Legally Sustainable**

The Examiner alleged that the applicant's revised specification included 'new matter'. However, the Examiner failed to provide any support for his allegation, or support for his contravention of the established law permitting the new text which Applicant had previously disclosed. Instead, the Examiner flatly claimed "any addition of new matter anywhere in the specification is deemed as such".

This is a perfect example of circular reasoning, which completely fails to recognize the difference between "new text" and "new matter". All any Examiner need do under such a standard is to 'deem' new text to be 'new matter', and hey, presto! the new text is 'deemed' inadmissible.

But the district court in Transco Products, Inc. v. Performance Contracting Inc., 28 USPQ 2d 1739 (ND Ill. 1993) made it clear that new text is not the same as new matter. That court held that a patent application can be amended — even in a continuation — to include new text; and when it does so, the changes are not considered "new matter" when that information: "really explains rather than expands the nature and scope of the originally claimed invention." (p. 1749)<sup>1</sup>

Any amendment that expands the disclosure of the prior art cannot expand the nature and scope of the originally claimed invention. That text can explain (as Applicant's did), by helping the reader of the patent distinguish the prior art from the invention, the invention's nature and scope. As such, therefore, the amending text was not "new matter" under the legal standard governing the application.

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<sup>1</sup> Though this decision was overturned, it was on different grounds; for the appellate court corrected the district court and noted that when new information changes the "best mode" to one which was not discovered until after the original filing date, then the text does count as "new matter". Transco Products, Inc. v. Performance Contracting Inc. 32 USPQ2d 1077 (F. Cir. 1994). The new text in the present application, however, does not change the 'best mode', but rather chiefly expands on the section devoted to 'prior art'.

Since the hypothetical ordinary person with skill in the relevant art is deemed to be in possession of all the prior art as of the date of the application, that material cannot be considered either unknown or concealed by the applicant; furthermore, the patent applicant himself is deemed to be in possession thereof as of the date of the application and as such, the material cannot be ‘new matter’. TurboCare Division of Demag Delaval Turbomachinery Corp. v. General Electric Co., 264 F.3d 1111, 1118; 60 USPQ2d 1017 (Fed. Cir. 2001): “The written description requirement and its corollary, the new matter prohibition...serve to ensure that the patent applicant was in full possession of the claimed subject matter on the application’s filing date.”

What is forbidden is the disclosure of an invention, process, or apparatus not further described, that is, text departing from or adding to the original disclosure of the invention (not, please not, of the prior art); and what is permitted is text clarifying, making definite, or conforming the specification to the drawings or claims to that which was expressly *or inherently* disclosed. Since the purpose of this rule is to ensure that as of the date of the original application the inventor was in full possession of the invention, no change that expounds further on, or acknowledges the existence of, prior art, can possibly constitute “new matter” under any interpretation.

New material is explicitly permitted under a number of circumstances — most especially, when such amendments “simply outlined the state of the prior art at the filing date.” Northern Telecom Inc. v. Datapoint Corp., 9 USPQ 2d 1577, 1594 (N.D. Tex. 1988). Examiner’s assertion that “adding new matter in the background of the invention is as objectable as adding new matter in the detailed description”, lacks legal foundation and, as it contravenes the law cited in the prior response, must be traversed.

The Applicant specifically objects to the Examiner’s unsupported conclusion and assertion that Applicant had conceded, implicitly or explicitly, either that the original specification did not adequately explain the invention or that the amendments offered constitute “new matter”. No such concession was intended; none can fairly be read into the Applicant’s response; and any such are expressly denied.

As the court stated in In re O'Farrell, *supra*, at p. 1674, just before providing more than four pages of scientific background and summary of the relevant prior art:

“Although the terms in these claims would be familiar to ones of ordinary skill in genetic engineering, they employ a bewildering vocabulary new to those who are not versed in molecular biology. An understanding of the science and technology on which these claims are based is essential before one can analyze and explain whether the claimed invention would have been obvious in light of the prior art.”

The material which Examiner asserts is “new matter” in the specification is the same type of background and prior art material which the court found necessary to insert and explicate in In re O'Farrell to address the issue of ‘obviousness’. The nature of the Examiner’s first office action strongly suggested that he was not versed in declarative programming, and possibly not versed in mathematics, formal logic, or computer science. Accordingly, the Applicant, following the example of the court, provided additional background in the prior which was not necessary to one educated in the field, but which Examiner’s response strongly suggested would assist the examination process by educating the Examiner.

The Examiner, other than asserting that new material describing the prior art was submitted, has not specified how each of the objected-to additions depart from or add to the original disclosure; he has failed to respond to the detailed, specific, editorial analysis of the precise English usages submitted by Applicant in the previous response establishing why the ‘new text’ could, and must, be distinguished from ‘new matter’.

At this time, however, the Applicant believes this issue has been adequately addressed and is ready for resolution by the Board of Patent Appeals on the basis of the existing record, should the Examiner refuse to reconsider his rejection of every line of ‘new text’ as ‘new matter’. Respectfully, however, the Applicant requests that the Examiner reconsider his rejection and accept the new text.

**Claim Rejections under 35 USC §112:**

**Claims 16-30, generally:**

The Examiner rejected claims 16-30, asserting that these contained matter not described in the specification “in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.”

In contravention to the Examiner’s assertion, Professor Bidgoli specifically states: “Each of the necessary concepts, tools, and means of their combination were disclosed to that level of detail necessary for their comprehension and subsequent implementation; those details which are well-known to those with ordinary skill were not described.” David O. McGoveran also states that “a person of ordinary skill in the art, after reading my invention (hereafter ‘ZM’) as described in the specification, drawings, and claims, could create within five man-weeks of effort a particular implementation which would be both operational and beneficial”.

**Claim 16, specifically:**

The Examiner objected to the change in language in Claim 16, from “dynamically managing a process” to “managing a dynamic process”. Applicant had already pointed out that this mirrored a previously-accepted change to the language of Claim 1 (the Examiner’s rejection of that claim was on other grounds entirely). Furthermore, this change was supported by the original description, as it was necessarily disclosed already as a function of the invention.

The Examiner must concede that the Applicant’s method is capable of self-modification; that is, that the Applicant’s method can change itself. The specification’s original text stated so: “In the preferred embodiment, modification of a goal is done by creating a condition that when detected by the same level as a goal causes that level to modify its own rules (self-modifying)” (p. 19, lines 13-15).

Also, the original drawings and specification note that there are both feedback and responsive aspects of the method which is claimed. For example, Figure 1 shows the feedback loop; Figures 4 and 5 show the method responding to the discovery of an internal contradiction and self-correcting the problem at the appropriate level where the contradiction is. The Summary both stated the method is “incorporating feedback that continuously updates a business’s model to the real world” (p. 9 line 2) and is “integrating the feedback into the business processes themselves, forms what can be described as closed-loop decision making, in which objectively-stated expectation leads to effort leads to result leads to feedback leads to improved objectively-stated expectation” (p. 9, lines 9-12). Later, in the Detailed Description, the responsive aspect is disclosed: “In the preferred embodiment of this invention, the instantiation of the rule sets and data describing both internal operations and goals, and external conditions and reactions, is continuously updated to match the reality as experienced rather than matching preconceived (planned) expectations.”(p. 18, lines 23-26). That the method tends to lead to improvement is disclosed, for the original specification stated “the method adapts to both internal and external weaknesses and thus continually improves in a dynamic and flexible fashion. (p. 19, lines 32-33.)

The meaning of the word “dynamically” (American Heritage Dictionary of the English Language, (hereinafter “Am. Her.”), Houghton-Mifflin Corp., 1969) is the adverbial form of “dynamic”, which is defined as “characterized by or tending to produce continuous change or advance”. One of the distinctions between a closed and open process, and a like distinction between a fixed and an adaptive one — and in each case, the distinction that makes the former static and the latter dynamic — is the incorporation of either or both of responsive or feedback aspects. This meaning and aspect of the objected-to claim were present in the original specification, in both the text and drawings thereof.

Read together, the text and drawings referred to above reveal a capability and tendency to both change and advance a process — specifically, the method itself. In short, the original text describes ‘dynamically managing a process’.

Because the original disclosure shows that the invention (Applicant's "Declarative Method") would 'tend to produce continuous change or advance', an inherent disclosure of the invention, that is, its function of dynamically managing its own process, is revealed. When a function, theory, or advantage is disclosed, the application may be amended to recite that without introducing prohibited new matter. MPEP 2163.07(a)

Accordingly, Examiner's objections to Claims 16, 17-23, 24, 27, and 30, are traversed.

Claim 28, specifically:

The Examiner also objected to Claim 28, more specifically, the language of "inducing a business process from a set of defined conditions...." as being "new matter". This objection is not sustainable over a reading of the original specification and drawings.

This rejection is not sustainable because the Examiner has applied the wrong test as to what constitutes "new matter", for the former is never the same as "new text". The correct test is neither linguistic identity between each and every word and clause in each claim and some particular portion of the specification, nor linguistic equivalence between each and every word and clause in each claim and some particular portion of the specification, but whether the specification, when read as a whole, discloses *or suggests* the new text. Chisum, Patents, §11.04[2][a], 11-239. Read as a whole, from the title onward, the original specification at the very least suggests this claim, even if the identical language is not used in both the specification and this claim, to anyone with ordinary skill in the art(s).

"Inducing", is to induce; to induce, is to infer by inductive reasoning; inductive reasoning, is reasoning of or utilizing induction (such as the inductive method); and induction, is "a principle of reasoning to a conclusion about all members of a class from examination of only a few members of the class; broadly, reasoning from the particular to the general" (Am. Her.). It is a process that legislators use to create new laws, and in a broad sense, one which all American citizens with any knowledge of civics, history, or science have at least some acquaintance. Induction is also a concept and approach well-

known in the field of declarative methods (McGoveran Declaration, p. 1, last paragraph), the field most closely suggested as relevant by the title of this invention.

In the original specification, the creation of a new business process from the pre-existing set was explicitly disclosed. (Detailed Description, p. 18, lines 23-33; p. 18, line 35 – p. 19, line 11). Using the inductive process to create a new rule from an existing set of rules and constraints is also a concept which is well-known to those with ordinary skill in the art (McGoveran Declaration, p. 1, last paragraph.) The question then becomes: does the original specification suggest an equivalence between a ‘business process’ and a rule?

A reading of the application as a whole, particularly to anyone with an ordinary comprehension of the declarative paradigm, declarative logic, or implementation of business operations, unquestionably suggests that a ‘business process’ is the same as a rule. For each ‘business process’ has an objective (i.e. what the business process is meant to accomplish), it has a condition (the event, situation, or constraint, (or the set of events, situations, or constraints) which triggers that process’s activation), and it has an action (that activity or set of activities which the business process instantiates and performs); just as each rule has an objective, a condition, and an action. (Summary, p. 9, lines 5-18; Description of the Drawings, p. 10, lines 10-21; Detailed Description, p. 11, lines 26-33; p. 14, lines 26-27 p. 15, lines 30-33.)

The equivalence is graphically and openly revealed. Figure 1 shows that ‘Business Rules’ (5) ‘evolve into’ (6) ‘Business Processes’ (7), and then Figure 2 specifically discloses “Business Processes Stated as Rules” (16)<sup>2</sup>. Only one question remains: is there any link between ‘rules’ and a set of conditions?

An attentive and knowledgeable reading of the Definitions (that is, one which incorporates the prior art knowledge of what ‘inducing’ can do) discloses the necessary connections between ‘Goal’, ‘Condition’, ‘Action’, ‘Element’, and ‘Rule’ which

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<sup>2</sup> Additionally, induction is a common feature of many inference engines available on the market today; and an inference engine is disclosed in Figure 3 linking rules and processes.

constitute the necessary disclosure to support the objected-to language in Claim 28. (See also McGoveran Declaration, p. 1 – last paragraph to p. 3, 1<sup>st</sup> paragraph.)

For all of the above reasons, this rejection is traversed.

Claims 29 & 30, specifically:

The Examiner has objected to Claims 29 and 30, asserting that the limitations therein are “new matter”. Again, the test is not linguistic identity, but whether the original text discloses or suggests the new text. When the entirety of the specification and drawings are reviewed, this objection becomes unsustainable.

The limitations of Claim 29 are each of the sub-clauses therein, namely:

“creating and maintaining a dynamic and self-referential representation of said induced business process within said model;”

and,

“changing said dynamic and self-referential representation as and in accordance with each change in the set of defined conditions, constraints, rules, and elements comprising said model.”

First, the Detailed Description explicitly discloses that the method creates “a dynamic, flexible, and adaptive model” (p. 16, line 2; p. 11, lines 34-35). Second, self-representation is disclosed (Summary, p. 9, lines 2-12). Third and fourth, as shown above, the induction of a business process and representation of a business process are disclosed (see, again, Fig. 1). Fifth, changing is disclosed (Summary, p. 9, lines 18-22; Detailed Description (p. 11, lines 10-23) of, and Drawings, Figures 4 and 5), including that which is self-modifying (Detailed Description, p. 19, lines 13-15). Sixth, conditions, constraints, rules, and elements are not only disclosed, but defined (Detailed Description, p. 13 line 6 – p. 14, line 24). Further reading of the original text produces effectively redundant evidence that the Examiner’s assertion is unsustainable, and this objection to Claim 29 is hereby traversed.



The limitations of Claim 30 are the sub-clause and ending, which state:

“including at least one anticipatory defined condition, constraint, rule, or element, thereby creating a model of the world which is differentiated from the currently known state;

even if such anticipatory defined condition, constraint, rule, or element is neither based on any history, trend, or deductive reasoning approach, nor supported by any particular reason to believe it will occur, nor believed that such is needed.”

As shown above, the aspects of ‘model’, ‘condition’, ‘constraint’, ‘rule’, and ‘element’ are already disclosed, so the question is whether the “anticipatory” as a limitation has been disclosed or suggested in the original disclosure.

The method is both explicitly (Detailed Definition, p. 12, line 10), and inherently (Detailed Definition, p. 13, lines 10-13; p. 18, lines 7-9, 28-33; p. 19, lines 2-11) described as “anticipatory”.

Differentiation from the currently known state is both explicitly (Detailed Description, p. 14, line 9; p. 16, lines 8-9) and inherently (Detailed Description, p. 14, lines 1-20) stated.

As shown, a reading of the original text as a whole produces evidence that the Examiner’s assertion is unsustainable, and this objection to Claim 30 is hereby traversed.

Claims 17 & 21, specifically:

The Examiner has further rejected claims 17 and 21 as being vague and indefinite for the use of the word “suitable”, by defining that term to mean ‘able’ or ‘qualified’. The Examiner’s reasoning is flawed on three grounds.

First, the definition of the word ‘suitable’ is not that which the Examiner claims. That “suitable” is far more definite than a merely permissive ‘able’ is obvious; why else does

the leading syllable distinguish the two words? The definition of “suitable” is not that thrown in without support by the Examiner, but “appropriate to a given purpose or occasion” (Am. Her.). When pursued, ‘appropriate’ defines even more clearly to mean that which is ‘proper, fitting’. (Am. Her.) “Suitable”, therefore, is not that which can, or is qualified, to do the task, but that which is suited, appropriate, proper, and fitted *for* the task.<sup>3</sup> That original lack of definitional attention hints, strongly, at the second flaw in the Examiner’s reasoning.

Second, the Examiner redefined the word ‘suitable’ in isolation and without heeding the prepositional clause stating the given purpose, namely, ‘for reduction to a form of formal logic’. If every word in a claim were considered in absolute isolation, no claim would ever be allowable; for no single word can be simultaneously fully enabling and definite. Under such an atomistic approach, were Ogg the Caveman to have written “I claim: a stick”, the last word would be objectionable as indefinite since it incorporates both a device and method indiscriminately. That clause “suitable for reduction to a form of formal logic” must be considered in its entirety. And ‘formal logic’ is a constrained set with extremely specific, and strict, constraints<sup>4</sup>.

Third, the Examiner had found that claim 18, where the steps “are instantiated in a computer program”, met the exact test which he asserts claims 17 and 21 fail. Yet he has not (and cannot) establish a substantive differentiation between the one instantiation (“done in a declarative method suitable for reduction to a form of formal logic”) and the next (“instantiated in a computer program”). This is because formal logic is no more, and no less, a determinable (though highly complex) means of expression than a computer program; in fact, the former is generally a precursor state to the latter. Both are, in the words of the court in Matter of Application of Sherwood, 613 F.2d 809 (1990) “not a

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<sup>3</sup> One can do basic arithmetic in Roman numerals, or write verse in C++. No reasonable man would argue they are suitable for those tasks.

<sup>4</sup> Backus-Naur form, prepositional calculus, fuzzy logic, pseudo-logic, flowcharts – each has a finite set of variables, terminals, and productions; distinguish between valid and invalid combinations, and restrict derivations to valid combinations of the starting set. See Introduction to Automata Theory, Languages, and Computation, Hopcroft & Ullman, 1979, Addison-Wesley, ISBN 0-201-02988-X; esp. p. 2, 18, 80-81, 112, 149, 168; Logical Foundations of Artificial Intelligence, Genesereth & Nilsson, Morgan Kaufman, 1987, ISBN 0-934613-31-1, p. 13 ff..

conjunction of some black art, [but] simply a highly structured language”. That court noted that the key is not whether every step of a computer program’s implementation is disclosed, but whether the “bridge-gapping tools are disclosed”. Such disclosure is sufficient to meet even the “best-method” test (*ibid*).

This prepositional clause puts the claim within the acceptable boundaries of particularity found within Matter of Sherwood, *supra*, for the actual reduction to a form of formal logic is necessarily a mere determinable<sup>5</sup> function for one with the ordinary skill in the art. For ‘reduction’, in this claim, fairly read in light of the entire application, does not mean a loss of weight, but rather the change of the form of the expression without any change to the value. (Am. Her.). Today logic programming, declarative programming, graphical programming, and procedural programming, all exist as means to instantiate a human-designed solution means into mechanical operators; yet all depend, ultimately, on an initial creation of a predecessor state suitable for reduction to whatever form of formal logic that instantiating tool can comprehend.

Prof. Bidgoli’s affidavit backs traversal of this objection. He states both: “putting these combinations into effect would be within the ordinary skill of those experienced in each of the appropriate fields after reading the disclosure in the inventor’s application”, and, “Each of the necessary concepts, tools, and means of their combination were disclosed to that level of detail necessary for their comprehension and subsequent implementation, those details which are well-known to those with ordinary skill were not described.”

For the above reasons, this rejection has been traversed.

Claims 19 & 23, specifically:

The Examiner further objected to claims 19 and 23 as containing both a computer and the method steps incorporated within. Again, the definite provision of the mathematical

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<sup>5</sup> In the legal field, this could read as ‘clerical’; presuming the existence of the necessary tool, this could be automatable or mechanical (for those who knew paper-tape and punch-cards).

methodology (i.e. declarative method, formal logic) in the specification places this claim squarely within the acceptable boundaries of particularity of Matter of Sherwood, *supra*. Because the precise form of the incorporated computer program depends primarily upon the external variables (that is, the business context), the means for translation between those and that business's particular instantiation in a particular computer program are specified by the entire disclosure, both specification and drawings. This can be attained with an acceptable level of experimentation, where most of the effort is devoted to aspects incident to all computer programming which have nothing to do with the invention's particularity. (See Professor Bidgoli's affidavit, cited two paragraphs *supra*; Declaration of David O. McGoveran, p. 3, last paragraph – p. 4.)

For the above reasons, this rejection has been traversed.

When the entirety of the specification and drawings are read, the Examiner's assertion that the disclosure failed to meet the 'enabling' requirements of 35 USC §112 cannot be sustained, and his rejection should be traversed.

Claim 26, specifically:

The Examiner further objected to claim 26 as vague and indefinite for using the term 'preferentially'. While this is believed to be a specific assertion of a relative rather than absolute constraint, rather than contest the matter the Applicant will strike that specific word from the claim, so that it now reads:

"26. [Amended] A method as in claim 25, wherein the steps used to produce a distinct new method lacking any logical contradiction [preferentially] avoid altering the delegation above the level in which said logical contradiction occurred."

The Examiner further objected to claim 27 as vague and indefinite for using the term "said particular action" without prior antecedent. This would be in the clause which reads:

"wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular action may occur;"

Applicant acknowledges a textual error occurred and the word "rule's" was inadvertently omitted between "particular" and "action". Correcting that typographical error resolves the problem, thusly:

"wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular rule's action may occur;.

Claim 27, specifically:

The Examiner further objected to claim 27 as being vague and indefinite for using the term "said dynamic process" without prior antecedent. This would be in the clause which reads:

"testing each rule against conditions both internal and external to said dynamic process,"

Applicant acknowledges a textual error occurred and the word 'dynamic' was substituted inadvertently for 'particular'. Correcting that typographical error resolves the problem, thusly:

“testing each rule against conditions both internal and external to said [dynamic] particular process,”

The Examiner is requested to enter the above amendments to Claim 27.

Claim 28, specifically:

The Examiner objected to Claim 28, that there was an inclusion of a means into a method, citing MPEP 2173.05(2). This would be in the clause which reads:

“stating, as a means for accomplishing said objective, at least one set of rules:”

Applicant acknowledges a textual error occurred and the clause “, as a means for accomplishing said” was mistakenly inserted over the words “for each”. Correcting that typographical error resolves the problem, thusly:

“stating for each objective, at least one set of rules:”

The Examiner is requested to enter the above amendment to Claim 28.

## Claim Rejections — 35 USC §101

The Examiner has rejected all claims 16-30 for failing to meet the requirements of 35 USC §101, specifically asserting two grounds: “For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts”; and, “the claimed invention must produce a useful, concrete, and tangible result”.

The test is not, as the Examiner hints, whether a process can be performed ‘using pencil and paper’. A process which changes information is patentable under the cited code, as may “anything under the sun that is made by Man” Diamond. v. Chakrabarty, 447 US 303, 309 n.6 (1980); for transformation of data alone is sufficient to meet both the above tests, under the law expounded in State Street Bank & Trust Group v. Signature Financial Group, Inc. 149 F.3d 1368, 47 USPQ 2d 1596 [Fed. Cir. 1998].

The “Declarative Method’, that is, the process described in the specification does more than that minimum, for the Examiner left out a critical step in his blanket condemnation; he forgot to include the step of “actuating a rule when its condition is met”. Such actions will distinguish the method from a mere mental exercise; for they will, and do, change the world; because an Action is stated in the Definitions in the specification as:

“...a particular dynamic operation that will in turn create a new particular factual circumstance. An “Action” can be, for example, a business event (e.g. “Order new inventory”), a request to a human for information or for a decision (“Should we use supplier A or supplier B?”), a decision to set a new Goal (“Increase sales by a further 20%”), or a decision to set a new constraint (“No expenses above \$5,000,000 may be authorized by anyone other than the president or treasurer”)

An Action is also defined as something which can change the method itself, for it is also defined as: “Additionally, an “Action” can also include creation, modification, or deletion of a Rule (for example, when an internal contradiction is found).” Thus, the data which can be transformed include the process itself.

The concrete and tangible result from applying this process to any business operation is a new and improved ‘method of doing business’; and this is because the knowledge of the business operation is transformed to its advantage by applying the process disclosed in the invention. Even in the hypothetical case, *reductio ad absurdum*, of an already-perfect business, while applying the invention will not produce an improved method of operation, it will at least produce the self-knowledge that no improvement is feasible — with a consequent and subsequent reduction in expense in consultants and management review!

The method disclosed in the inventor’s application creates, from uncoordinated, even disorganized, information contained in a number of different formats and sources, what even the Examiner described as a ‘roadmap’; and, just as a roadmap produces useful, tangible results for everyone from truckers engaged in a long-haul who need to find an alternative route when a bridge is out, to a sales organization attempting to resolve the eternal ‘traveling salesman optimization’, so does the Applicant’s invention. The usefulness is testified to directly and as being obvious to those with ordinary skill in the arts (Declarations of Professor Bidgoli, David O. McGoveran).

Contrary to the Examiner’s assertion, the method disclosed in the claims does produce a concrete, tangible, and useful result, that being a transformation of the self-knowledge of a business applying the method to its own operations, thereby transforming both its self knowledge, producing better means of operation, reducing its inefficiencies, as well as effecting actions which change the real world in immediate and direct response to conditions, all as a consequence of the method’s application.

For the above reasons, the Examiner’s objection is traversed.



### **Claim Rejections under 35 USC §103:**

The Examiner rejected claims 16-24 and 27-30 as unpatentable under 35 USC §103 (a) as being unpatentable over the prior art, specifically citing Bidgoli (Handbook of Information Systems: A Managerial Perspective, November 1998), 'in view of Kaplan et al. (Linking the Balanced Scorecard to Strategy, Fall 1996); and asserted that the Applicant's invention fails to qualify for a patent on the grounds that it is "obvious".

#### **1. Experts In The Field, Including the Author of the Reference Relied Upon By The Examiner, Refute the Examiner's Interpretation and Conclusions**

Most of the Examiner's rejection has rested upon what Applicant has contested is a misreading of Bidgoli's Handbook of Information Systems: A Managerial Perspective, November 1998. Applicant decided, therefore, to simply ask that author about this matter, directly.

Applicant requests entry into the file wrapper record, and official notice be taken, of the attached Exhibits A (Letter from Professor James R. Evans, Professor of Quantitative Analysis and Operations Management, and Director, Total Quality Management Center, College of Business, University of Cincinnati), B (18 page CV, including all speeches and publications, of Professor Evans), C (First Letter, dated October 15<sup>th</sup>, 2003, from Hossein Bidgoli, Professor of Management Information Systems, California State University, Bakersfield), D (Second Letter, dated October 23<sup>rd</sup>, 2003, from Hossein Bidgoli, Professor of Management Information Systems, California State University, Bakersfield), E (12 page CV, including all speeches and publications, of Professor Bidgoli); F (4 page declaration of Applicant, David O. McGoveran), and G (7 page CV of David O. McGoveran). These are evidence (affidavits and declarations) responsive to Examiner's assertions submitted to traverse the Examiner's rejections.

If the Examiner will not accept these as affidavits or declarations pursuant to Rule 132, Applicant's attorney requests that he be telephoned and informed of such determination prior to further action by the Examiner, so the Applicant's attorney can prepare and submit the identical information and assertions from these individuals in such form as the Examiner prefers and requests.

The first two of these individuals are experts in the field of business management; the former being one of the leading experts on Total Quality Management (TQM), and the latter the author of the reference depended upon by Examiner. Each was given the Applicant's application (specification, drawings, and claims) and asked if it was useful, novel, and non-obvious. Professor Bidgoli was then given the portion of the Examiner's Response asserting that the Applicant's invention was 'obvious' in light of the Professor's work, and asked again if the Applicant's invention was useful, novel and non-obvious. The next paragraphs summarize their responses to these questions.

First, Professor Evans asserts that the Applicant's invention "does not match any description of TQM as practiced and described in the literature"; that Applicant's invention "was not known, practiced, suggested, or made obvious by TQM"; and as a final nail to Examiner's unsupported assertions, "nor is it" [Applicant's invention] "made obvious in my writings or any published literature of which I am aware as of 12/30/1999."

An in-depth review of Professor Evans' c.v. discloses that he knew, before reading Applicant's specification, about Kaplan and the 'Balanced Scorecard' (or 'BSC'). This is not a surprise; the BSC was first published in 1992 by Kaplan, Robert S., and David Norton: "The Balanced Scorecard: Measures that Drive Performance." Harvard Business Review 70, no. 1 (January-February 1992): 71-79. (Reprint #92105.)

Under Prof. Evans' 'Publications', at Citation 5, is The Management and Control of Quality; Publisher: South-Western College Pub; 5th edition, June 15, 2001; ISBN: 0324066805. This work has been used at DePaul University as the reading material to

teach BSC as part of their course MGT 322: Management and Measurement of Quality – see [http:// fac.comtech.depaul.edu / mgtsyllabi / lc322.pdf](http://fac.comtech.depaul.edu/mgtsyllabi/lc322.pdf). In Evans' work the reference to the Balanced Scorecard approach does not appear until Chapter 8:

Table of Contents

“Chapter 8 Performance Measurement and Strategic Information Management

The Strategic Value of Information

Quality Profile: Wainright Industries, Inc.

Quality Profile: Xerox Business Services

Quality Profile: ADAC Laboratories

The Scope of Performance Measurement

The Balanced Scorecard.”

Also under Prof. Evans' 'Publications', at Citation 15, is Statistics, Data Analysis, and Decision Modeling (co-authored with David L. Olsen). That book's Table of Contents for the most recent edition (August 6, 2002; Publisher: Prentice Hall; 2nd Book and CD-ROM edition; ISBN: 0130783838) includes, among its first chapter's subheadings, a version of the Balanced Scorecard:

Table of Contents

“Chapter 1. Data and Business Decisions.

Statistical Thinking in Business.

Data in the Business Environment. Sources and Types of Data.

Populations and Samples. Decision Models. Using Microsoft Excel.

Working with Data in Excel.

Case: The Tracway Balanced Scorecard.”

Finally, under Prof. Evans' 'Referred Papers', at Citation 81, is “Validating Key Results Linkages in the Baldrige Performance Excellence Model”; Quality Management Journal, Volume 10 . Issue 2 . April 2003; by James R. Evans, University of Cincinnati, and Eric P. Jack, University of Alabama, Birmingham, which can also be found at [http://www.asq.org/pub/qmj/past/vol10\\_issue2/evans.html](http://www.asq.org/pub/qmj/past/vol10_issue2/evans.html). In this document, Prof. Evans equates the Balanced Scorecard with the Baldrige Award criteria — something he has

considerable experience with, as his c.v. shows; he has served as an examiner, senior examiner, and alumni examiner for the Malcolm Baldrige National Quality Award from 1994-2001 (the Baldrige Award reviews are administered by the National Institute for Standards and Technology). Dr. Evans stated, in this paper:

“Basically, the difference between the Kaplan-Norton framework and the Baldrige Award criteria is a matter of semantics; the internal perspective includes most of the measures from the Baldrige organizational effectiveness item, while innovation and learning encompasses human resources measures. In both models, the focus is on a set of measures that provides a comprehensive perspective on organizational performance, and any measure an organization might use can be assigned to an appropriate category in either framework.”

Clearly not only aware of, but informed about, the Balanced Scorecard, Professor Evans refutes the Examiner’s assertion that the Applicant’s invention is made obvious by either TQM or, in his words, “any published literature of which I am aware as of 12/30/1999”.

Second, Professor Bidgoli flatly contradicted the Examiner’s reading of the Professor’s book, and asserts that Applicant’s invention “is not disclosed or obvious”. Furthermore, the Professor asserts that “the inventor utilizes these tools and techniques in a unique format formulated in the proposed *Declarative Method* and his presentation and formulation do not have any relationships with the materials presented in my book.” He then went on to further state that the Applicant’s invention was “novel and unique”, and, finally, “This integration of tools, concepts and processes were certainly not obvious to me. Its uniqueness and advantages are clearly introduced by the inventor in his proposal.”

Third, after reviewing the Examiner’s assertions, Professor Bidgoli strengthened his assertions in favor of the Applicant. Now he asserts: “I am confident that the invention in the above patent application is neither disclosed nor made obvious by the material presented in this book.” He notes that in the material cited by the Examiner “I only discuss concepts, tools and processes used in modern information systems; I do not set

out any implementation of any of these.” And he goes on to state: “Throughout my 24+ years of teaching and publishing more than 120+ books, articles and professional manuals I have not seen a *method* or *model* similar to the one presented by the inventor for business management and to me it is novel and unique. It certainly has not been discussed in my book. Contrary to the Examiner’s contention, I neither disclose nor anticipate using rule-based expert systems to improve the implementation of TQM on p. 300, and I do not disclose “creating and maintaining a dynamic and self-referential representation of induced business process” in the book at all. Not only is the Declarative Method presented by the inventor not discussed in my book, but it describes methods for handling situations which I described as not being candidates for expert systems at the time. These include the internal handling of contradictions (i.e. problem areas in which there are disagreements among experts — see p. 508) and emergent business processes (i.e., problems that have not been solved previously by human experts — see p. 507.)” And he reasserts his conclusion that the Applicant’s invention is novel, useful, and non-obvious.

The third witness, the applicant, has had decades of experience in the fields of computer science, declarative methods, declarative programming, and computer programming; has attended conferences in each of these fields; also has decades of experience with business management efforts, more particularly implementation of theoretical concepts, processes, methods, and operations thereof; and has attended conferences in that field.

Each of these witnesses also provide and swear to the experience disclosed in their respective curriculum vitae, through which the Examiner, or any fact-finder, may evaluate their minimum level of expertise.

Each of the first two witnesses provides both direct and secondary evidence of non-obviousness. Professor Evans states that he has not, in almost 20 years’ work in his field, seen anything like Applicant’s invention. Professor Bidgoli states that neither his “24+ years of teaching and publishing” nor awareness of “more than 9000 operational expert systems and management support systems” negated the novelty and non-obviousness of

Applicant's invention. Each of these witnesses is also familiar with many other methods and techniques in business management with publications in statistical quality control, expert systems, operations research, etc. as shown by their curriculum vitae. These two witnesses have more than ordinary knowledge and skill in the prior art, and yet to them the Applicant's invention is useful, novel, and above all non-obvious. The reasoning thus supports the Applicant: if his invention is non-obvious to experts in the prior art, then it also must be a surprise to those who merely have an ordinary level of skill.

The Examiner cited, as grounds for his rejection of Applicant's invention on the ground of obviousness, a strained and unsupportable interpretation of Professor Bidgoli's Handbook. Professor Bidgoli, however, has directly contradicted both the Examiner's interpretation and conclusion.

In the event that the Examiner further rejects any claim on the grounds of 'obviousness', Applicant's attorney respectfully requests that: first, the Examiner state both the fields of knowledge which he considers to be the prior art, and the level of experience, schooling, and training which he considers to be the 'ordinary skill' in that prior art, so that Applicant's attorney can prepare evidence from which the Board, or any judicial reviewing authority, can resolve that question of law based on appropriate factual inquiries.

Based on the evidence of the experts in the field, the Applicant's invention is non-obvious, and the Examiner's rejection on grounds of obviousness is traversed.

## **2. Combination of these References to Establish Obviousness is Legally Unsupportable**

With regard to the proposed combination of Bidgoli and Kaplan, it is settled and binding precedent that in order for prior-art references to be validly combined, and the combination then to be used in a prior-art §103 rejection, the references themselves (or

some other prior art) must suggest that they be combined. This rule was stated in In re Sernaker, 217 USPQ 1, 6 (CAFC 1983):

“[P]rior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings.”

The application cannot be cited as the source for suggesting the combination, according to Orthopedic Equipment Co. v. United States, 217 USPQ 193, 199 (CAFC 1983):

“It is wrong to use the patent in suit [here, the patent application] as a guide through the maze of prior art references, combining the right references in the right way to achieve the result of the claims in suit [here the claims pending]. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness in a court of law [here the PTO].”

In line with these decisions, and more apt to the present situation of a patent application before an Examiner, is the holding of the Board of Patent Appeals in Ex Parte Levengood, 28 USPQ 2d 1300 (PTOBA&I 1993):

“In order to establish a *prima facie* case of obviousness, it is necessary for the examiner to present *evidence*, preferable in the form of some teaching, suggestion, incentive or inference in the applied prior art, or in the form of generally available knowledge, that one having ordinary skill in the art *would have been led* to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. ... That which is within the capabilities of one skilled in the art is not synonymous with obviousness. ... That one can *reconstruct* and/or explain the theoretical mechanism of an invention by means of logic and sound scientific reasoning does not afford the basis for an obviousness conclusion unless that logic and reasoning also supplies sufficient impetus to have led one of ordinary skill in the art to combine the teachings of

the references to make the claimed invention.... Our reviewing courts have often advised the Patent and Trademark Office that it can satisfy the burden of establishing a *prima facie* case of obviousness only by showing some objective teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that 'would lead' that individual 'to combine the relevant teachings of the references.' ... Accordingly, an examiner cannot establish obviousness by locating references which describe the various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done."

All of these are summarized in the MPEP, at 706.02(j), which states: "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. **In re Vaeck**, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991)." Even more detail is specifically stated in §2143.01-2143.03.

Applicant therefore submits that combining Kaplan and Bidgoli is not legally justified as neither contains any impetus suggesting a combination, thereby rendering any such combination unsupportable for lack of foundation. Kaplan, being written first, obviously has no mention of Bidgoli. The sole point of detail that Kaplan provides is a single sentence and reference on page 67: "Eventually, however, as more data and evidence are accumulated, organizations may be able to provide more objectively grounded estimates of cause-and-effect relationships. At that point, the Balanced Scorecard can be captured in a systems dynamics model that provides a comprehensive, quantified model of a business's value creation process." Kaplan contains not even the slightest hint towards any of an inductive approach, a business rules effort, or the use of a declarative programming approach (all elements, and thus the combination, of Applicant's invention); nor does Kaplan contain any hint of combination with Bidgoli.



The Examiner, in his response, asserted that “Kaplan et al discloses delegating an objective to a specific employee as a leading indicator (i.e. hours spent with customer, see p. 72, ¶1).” This assertion is not only not supported by the cited text, but contradicted by it. That text reads: “The second measure,” [Kaplan previously had specifically distinguished ‘objective’ from ‘measure’; Kaplan, p. 55, 2d full ¶: “the non-financial measures they use are generic and are not related to specific strategic objectives...”] “*Hours Spent With Customers*, was included to send a signal to salespersons throughout the organization of the new culture required by the strategy.” There is no “delegation”, no specific employee; this is a general signal to all ‘salespersons throughout the organization’. Furthermore the measure ‘*Hours Spent With Customers*’ is clearly shown in Exhibit 7, on the same page, to be not an objective, but a “Lead Indicator”, and one which is under “Strategic Measures”, which the same Exhibit 7 differentiates from “Strategic Objectives”. (Kaplan also is entirely silent on inheritance and constraints, two elements of Applicant’s invention which the Examiner somehow failed to consider.)

The Examiner did not show any reference in Bidgoli, though written later, of either Kaplan’s work, nor any disclosure of the Applicant’s combination; and, having reviewed the material, Applicant asserts that he has found no such reference. Indeed, the Examiner concedes, as he must, that the combination, and also a number of particular elements of the Applicant’s combination, are not disclosed in Bidgoli. For example, the Examiner conceded that, “Bidgoli does not explicitly disclose delegating the objective to at least one specific actor, wherein each said actor inherits from all superior actors conditions as constraints and actions as goals, and passes upwards...does not conform to the real world” (Response, p. 10, lines 2-7) “Bidgoli does not disclose the steps done in a declarative method suitable for a reduction to a form of formal logic”; “Bidgoli does not explicitly disclose incorporating into the method, steps for creating, differentiating, modifying, and deleting any objective, goal, constraint, set of rules or rule” (Response, p. 11, lines 3-6); and, “Bidgoli does not disclose including at least one anticipatory defined condition, constraint, rule, or element” (Response, p. 12, lines 12-13)

And as for the Examiner's assertion that Bidgoli's disclosure of TQM amounts to disclosing "a method for dynamically managing a process through an emergent and inductive approach that anticipates possible conditions and desired actions", that assertion is flatly contradicted by an expert in the field of TQM, Professor Evans.

Thus Applicant submits that the rejection on any combination of these references on the grounds of obviousness is also improper and that any rejection of the claims based thereupon should be withdrawn.

### **3. The References Fail To Meet The PTO's Test for Obviousness**

These references entirely lack the key points which were held to be required in In re O'Farrell, 853 F.2d 894, 903, 7 USPQ 2d 1673, 1681 (Fed. Cir. 1988), in that they have none of (a) a detailed enabling methodology; (b) a suggestion to modify the prior art to produce the claimed invention; and (c) evidence suggesting the modification would be successful.

Neither Kaplan nor Bidgoli contain an enabling methodology, let alone that disclosed by the Applicant. The Examiner has completely failed to point to any paragraph, line, or section containing such. That is the first of the necessary conditions for supporting an assertion of 'obviousness' stated in In re O'Farrell, *supra*.

Neither Kaplan nor Bidgoli provide a suggestion to modify the prior art in the way it was done by Applicant, the second necessary condition stated in In re O'Farrell, *supra*. (For example, neither Kaplan nor Bidgoli suggests (a) using the declarative paradigm, or (b) using an inductive approach.) When the very difference between the prior art and the application's claims are the features absent in the prior art, this is evidence of non-obviousness, as the court found in Symbol Technologies Inc. v. Opticon, Inc., 17 USPQ2d 1737, 1746; *aff'd*, 935 F.2d 1569; 19 USPQ 2d 1241, 1247 (Fed. Cir. 1991).

Finally, neither Kaplan nor Bidgoli contain evidence suggesting that Applicant's specific modification of the prior art would be successful, the third and last necessary condition stated in In re O'Farrell, *supra*. In fact, since Bidgoli teaches away from using 'expert systems' in any situation where there is contradiction or uncertainty amongst the experts, two areas where the Applicant's invention specifically provides an enabling methodology, Bidgoli must be read as suggesting that the Applicant's specific modification, if implemented merely as an expert system as the Examiner suggests, would not be successful. As the MPEP states, "Proceeding Contrary to Wisdom Is Evidence of Nonobviousness" (MPEP §2145(X)(D)(3).

The prior art cited by the Examiner directly taught against the Applicant's invention. TQM and the Balanced Scorecard both derive from Deming's 500 page classic work on management philosophy, Out of the Crisis<sup>6</sup>, which in Chapter 2, of the 14 specific points for "Transforming Western Management", specifically states as Point 11 "Eliminate management by objective". Bidgoli paraphrases this as "Eliminate Numerical Quotas". All cited sources feared rewarding short-term measurable goals and achieving production quotas irrespective of quality, efficiency, or future costs (what might be called the 'Sovietization Error'). By contrast, ZM enables the integration of management by objective, performance measurement, and quality measurement in such a fashion as will avoid the problems the prior art deemed insuperable.

MPEP §2143.02 notes that a prior art reference can support a prima facie claim of obviousness only when it supports a reasonable expectation of success. However, since Bidgoli specifically teaches away from the Applicant's invention in numerous particulars (Applicant's previous response, p. 31, line 10; p. 32, line 28 - p. 33, line 14; p. 33, lines 16-23; p. 36: Bidgoli's second Letter, Exhibit D), it creates no 'reasonable expectation of success' and thus cannot support any claim of obviousness, whether alone, or in any combination with Kaplan or any other prior art reference.

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<sup>6</sup> Dr W Edwards Deming, Out of the Crisis: Quality, Productivity and Competitive Position, Chapter 2, 1982 & 1986, Cambridge University Press, Cambridge.

#### **4. Examiner's Rejections Depend Upon An Impermissible "Obvious To Try" Standard**

The only linkage the Examiner made, in rejecting the various claims on the grounds of obviousness, between the cited prior art and the Applicant's invention are broad assertions, such as "Bidgoli and Kaplan et al are concerned with effective organization and process management...", or "Bidgoli discloses TQM using new technologies...". Because the law recognizes that between the cup of concern and the lip of effective instantiation lies many a slip, which can only be circumvented through inventive perspiration, experimentation, cogitation, and creation, it forbids the use of "selective hindsight". *In re Dow Chemical Co.*, 5 USPQ 2d 1529, 1532. That case requires of prior art which an Examiner uses to claim 'obviousness':

"There must be a reason or suggestion in the art for selecting the procedure used, other than the knowledge learned from the applicant's disclosure." (*id*, at 1532, citation omitted).

The Examiner's rejection on the grounds of 'obviousness' is at best an 'obvious to try' rejection, "a standard which this court and its predecessors have repeatedly rejected as improper grounds for a §103 rejection. *E.g. In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1599 (Fed. Cir. 1988) [additional cites omitted]." *In re O'Farrell*, *supra*, at 1680. The Examiner has fallen into the second error identified in *O'Farrell* that is linked to the 'obvious to try' approach:

"In others, what was 'obvious to try' was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only a general guidance as to the particular form of the claimed invention or how to achieve it. [Citations omitted]" *id*, at 1681.

Neither Kaplan nor Bidgoli suggest the selection of the declarative paradigm, or the use of an inductive approach, or their combination — and thus, under the law, neither alone, nor both together, can be used to support a rejection based on 'obviousness'.

Applicant respectfully requests, in the event the claims are again rejected upon any combination of references for §103 grounds, that the Examiner include an explanation, in accordance with MPEP §706.02, Ex Parte Clapp, 27 USPQ 2d 972 (POBA 1985) and Ex Parte Levengood, *supra*, making plain the ‘factual basis to support his conclusion that it would have been obvious’ to make the combination; and specifically cite the language in the reference that names the particular procedure, method, and elements, and their combination, used by Applicant in his invention, as is required by In re Fine, *supra*, at 1598-1599:

“The PTO has the burden under section 103...It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available in the art would lead that individual to combine the relevant teachings of the references. [Citations omitted.] This it has not done. The Board points to nothing in the cited references, alone or in combination, teaching or suggesting Fine’s invention...[as] neither of them offered any support for or explanation of this conclusion.”

Applicant respectfully reminds the Examiner of three cautions expressed in the law in two particular cases concerning an assertion of ‘obviousness’. The first is found in Arkie Lures Inc. v. Gene Larew Tackle, Inc., 119 F.3d 953, 43 USPQ 2d 1294, 1296: “Good ideas may well appear ‘obvious’ after they have been disclosed, despite having been previously unrecognized.” That court also noted that when the prior art suggests one approach and the applicant goes directly against ‘the accepted wisdom’, this is evidence of **non-obviousness**. Arkie Lures, Inc., *supra*, p. 1297. The second is found in In re Fine, *supra*, at 1600: “One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”

## **5. Examiner Implicitly Conceded The Non-Obviousness of Applicant's Invention**

The Examiner repeatedly concedes that Bidgoli does not disclose a particular aspect of the Applicant's invention. For example: "Bidgoli does not explicitly disclose delegating the objective to at least one specific actor" (Response, p. 10, lines 2-3); "Bidgoli does not explicitly disclose the steps done in a declarative method suitable for reduction to a form of formal logic" (Response, p. 10, lines 14-15). Then without any support the Examiner simply asserts that that aspect of Applicant's invention is obvious. For example: "Bidgoli discloses TQM using new technologies to improve implementation...therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the steps done in a declarative method suitable for reduction to a form of formal logic in Bidgoli, for use in an expert system, thereby improving implementation." (Response, p. 10, lines 15-20.) By this artifice, if Examiner's argument is held valid, once an author merely mentions that new technologies can be used, no further invention can ever be patentable!

Both Bidgoli and Kaplan are authors in the field of business management; each (at least, as disclosed in the cited references) also has experience in the more specialized sub-field thereof of business method implementation, and with the cross-field of computer programming. Again by the Examiner's reasoning, once an author mentions that new technology from a different field might be used, no cross-field invention can be patentable.

Finally, the Examiner simply asserts that Bidgoli does disclose an aspect of the Applicant's invention, in asserting that: "Bidgoli discloses creating and maintaining a dynamic and self-referential representation of the induced business process within the model, and changing the dynamic and the self-referential representation as and in accordance with each change in the set of defined conditions, constraints, rules, and elements comprising the model (i.e. meta-knowledge, the ability of an expert system to learn from experience, see page 500)." This interpretation has been rejected by Professor

Bidgoli, both after reading the application (Exhibit C) and after reading the Examiner's material (Exhibit D).

By the Examiner's reasoning, whenever a third party can transform, through a unsubstantiated verbal assertion of equality, an abstract discussion in any pre-existing document of a potential future instantiation, into an inventor's explicit instruction as to how to instantiate such capability, no invention can be patentable. Under such reasoning, we may as well close the Patent Office and all go home, as all inventions have been already described by the science-fiction authors, futurists, and dreamers.

None of these assertions by the Examiner can support a rejection based on 'obviousness'. First, he has completely failed to evaluate the invention as a whole, and not just as a combination of subordinate parts. That requirement is absolute, as the court stated with sharp deprecation in In re Markahur Patent Litigation, 831 F. Supp. 1354, 28 USPQ 2d 1801, 1817:: "This is much like testifying that because Shakespeare used only 26 letters, each of which had been used many times before, his plays are obvious."

Second, the lack of any substantiation for Examiner's increasingly stretched assertions of 'obviousness', amount to an implicit concession by the Examiner that there are no real grounds for his rejection. However, rather than balance the statements of the Examiner against arguments of counsel, a more grounded and straightforward approach suggested itself to Applicant. He went to the "horse's mouth" for both the reference most consistently, and wrongly, applied by Examiner to this application; and an expert in the specific prior art (TQM) that Examiner most strongly argued barred Applicant's invention, and asked for a dispassionate evaluation. The results, summarized in the first section above, contradict Examiner entirely: the third-party, expert testimony is that the Applicant's invention is non-obvious.

## **Conclusion**

Affidavits and curriculum vitae of three individuals (Prof. Evans, Prof. Bidgoli, and David McGoveran) are entered into the prosecution history.

The Examiner's renumbering and amendment of claim numbers is accepted, and Applicant subsequently incorporated the new numbers into the within-claim citations to now-renumbered claims, restoring the original claim dependencies.

The Examiner's allegations of "new matter" in the specification, having failed to establish that the new text was not allowable (as expanding or adding to the invention claimed, as not clarifying the original disclosure, or as adding matter neither disclosed nor suggested in the original specification), are not sustainable and this objection is traversed.

The Examiner's claim rejections generally to claims 16-30 as not meeting the requirements of 35 USC §112, are rebutted by Professors Bidgoli and David McGoveran and this rejection is traversed.

The Examiner's claim rejections, specifically, to claims 16, 28, 29 & 30, 17 & 21, 19 & 23, as not meeting the requirements of 35 USC §112, are rebutted and each of these rejections is separately traversed.

The Examiner's claim rejections to Claims 26 and 27 for being 'vague and indefinite' and to Claim 28 for including a means into a method, as not meeting the requirements of 35 USC §112, identified typographical errors and Applicant amended these claims, thereby traversing these rejections.

The Examiner's claim rejections of claims 16-30 for not meeting the requirements of 35 USC §101, having mistakenly left out of consideration an actuating step which produces a concrete, tangible, and useful result, is traversed.

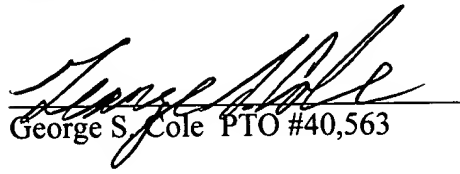


The Examiner's claim rejections of Claims 16-24 and 27-30 for not meeting the requirements of 35 USC §103, having been refuted by practitioners in the field, attempting a legally-unsupportable combination of references, failing to cite from either or both an enabling methodology, using an impermissible standard, and implicitly conceding the Applicant's non-obviousness, fails utterly, and these rejections are traversed.

The law states that, in light of evidence rebutting a *prima facie* assertion of obviousness, the Examiner must consider anew all of the evidence (in this situation including the Exhibits). See In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). Since experts, including the author of the reference most used by the Examiner, unequivocally assert that Applicant's invention is non-obvious; since the references do not suggest that they be combined; since the references do not suggest the use of the procedures selected by Applicant; since the reference most used by the Examiner teaches away from the Applicant's invention; and, finally, since the Examiner conceded that numerous and basic aspects of Applicant's invention are not to be found in the cited prior art, Applicant's attorney respectfully requests that the Examiner reconsider his rejection on the grounds of obviousness and allow the claims.

For all the reasons given above, it is respectfully submitted that the actual errors in the specification are corrected, that the claims comply with the requirements of Sections 101 and 112, that the claims define over the prior art a new and non-obvious combination over Sections 102 and 103, and that as the third party witnesses declare, these distinctions attain concrete, tangible, and useful results and are of patentable merit. Accordingly, this application is now submitted to be in full condition for allowance, which action is respectfully solicited.

Respectfully Submitted;



George S. Cole PTO #40,563

[21]16. [Amended] A method for dynamically managing a process through an emergent and inductive approach that anticipates possible conditions and desired actions, comprising:

- declaring an objective of said process as a set of measurable goals and constraints; stating for each objective at least one corresponding and applicable set of rules:

- wherein each rule in said set of rules contains both a condition governing that rule's actuation, and that rule's action when said condition is met; and
  - wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular rule's action may occur;

- testing each rule against conditions both internal and external to said process, as such conditions exist in the real world, without specifying the order of testing, unless the order becomes governed by the actuation of at least one rule whose precondition governing its actuation becomes satisfied;

- actuating a rule when its condition is met; and,

- delegating

- the objective as declared in a set of measurable goals and constraints,
  - the corresponding and applicable set of rules , and,
  - responsibility for attaining said objective and for testing, actuating, and further delegating said objective and rules,

- to at least one specific actor, wherein each said specific actor

- inherits from all superior actors conditions as constraints, and actions as goals; and,

- passes upwards

- all actions as instantiations of conditions, and

- all information necessary for altering any objective when said objective does not conform to the real world.

[22] 17. [Amended] A method as in Claim [21]16, wherein each of the steps of declaring, stating, testing, actuating, and delegating, are done in a declarative method suitable for reduction to a form of formal logic.

[23]18. [Amended] A method as in claim [21]16, wherein each of the steps of declaring, stating, testing, actuating, and delegating, are instantiated in a computer program.

[24]19. [Amended] A general-purpose computer programmed to implement the method specified in Claim [21]16, comprising:

instantiation of said method in a computer program; and,

implementation of said computer program on a particular computer, having:

inputs reflecting real-world conditions;

outputs reflecting actions and information, transformed by said computer

into actions and human-readable information, respectively;

said computer program operating in conjunction and interactively with a human responsible for said process.

[25]20. [Amended] A method as in claim 16, further comprising the additional step of:

internalizing feedback for both performance and process by incorporating into the method, so as to better match said process to the real world or to correct logical contradictions created or encountered by the method, steps for:

creating,

differentiating,

modifying, and

deleting,

any objective, goal, constraint, set of rules, or rule.

[26]21. [Amended] A method as in claim [25]20, wherein each of the steps of declaring, stating, testing, actuating, delegating, and internalizing feedback, are done in a declarative method suitable for reduction to a form of formal logic.

[27]22. [Amended] A method as in claim [26]21, wherein each of the steps of declaring, stating, testing, actuating, delegating, and internalizing feedback, are instantiated in a computer program.

[28]23. [Amended] A general-purpose computer programmed to implement the method specified in claim [25]20, comprising:

- instantiation of said method in a computer program; and,

- implementation of said computer program on a particular computer, having:

- inputs reflecting real-world conditions; and,

- outputs reflecting actions and information, transformed by said computer into actions and human-readable information, respectively;

said computer program operating in conjunction and interactively with a human responsible for said dynamic process.

[29]24. [Amended] A method for dynamically managing a process comprising:

- declaring an objective of said process as a set of measurable goals and constraints;

- stating for each objective at least one corresponding and applicable set of rules:

- wherein each rule in said set of rules contains both a condition governing that rule's actuation, and that rule's action when said condition is met; and
  - wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular action may occur;

- testing each rule against conditions both internal and external to said process, as such conditions exist in the real world, without specifying the order of testing,

unless the order becomes governed by the actuation of at least one rule whose precondition governing its actuation becomes satisfied;

actuating a rule when its condition is met; and,

delegating

the objective as declared in a set of measurable goals and constraints,

the corresponding and applicable set of rules, and,

responsibility for attaining said objective and for testing said rules,

to at least one specific actor, wherein each said specific actor

inherits from all superior actors conditions as constraints, and actions as goals; and,

passes upwards

all actions as instantiations of conditions, and

all information necessary for altering any objective when said objective does not conform to the real world;

and,

internalizing feedback for both performance and process by incorporating into the method steps for:

creating,

differentiating,

modifying, and

deleting,

any objective, goal, constraint, set of rules, or rule.

[30]25. [Amended] A method as in claim [29]24, wherein the step of internalizing feedback for both performance and process by incorporating into the method steps for creating, differentiating, modifying, and deleting, any objective, goal, constraint, rule, rule-set, or delegation, further comprises:

using the occurrence of a logical contradiction created or encountered by the method to improve the method by:

identifying the two or more, goals, constraints, sets of rules, or rules that produce the logical contradiction, and, using said steps for  
creating,  
differentiating,  
modifying, and  
deleting,  
any objective, goal, constraint, set of rules, or rule, to produce a distinct new method lacking any logical contradiction.

[31]26. [Amended] A method as in claim [30]25, wherein the steps used to produce a distinct new method lacking any logical contradiction [preferentially] avoid altering the delegation above the level in which said logical contradiction occurred.

[32]27. [Amended] A device for transforming knowledge into managerial guidance that can replace an individual human possessing particular process knowledge with a dynamically adaptable device accessible by a second individual human, said device comprising:

means for transforming said particular process knowledge by:

declaring an objective of said particular process as a set of measurable goals and constraints;

stating, as a means for accomplishing said objective, a set of rules:

wherein each rule in said set of rules contains both a condition governing that rule's actuation, and that rule's action when said condition is met; and

wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular rule's action may occur;

testing each rule against conditions both internal and external to said  
[dynamic] particular process, as such conditions exist in the real world,  
without specifying the order of testing, (unless the order becomes  
governed by the actuation of at least one rule whose precondition  
governing its actuation becomes satisfied);  
actuating a rule when its condition is met; and,  
delegating

- the objective as declared in a set of measurable goals and  
constraints,
- the corresponding means for accomplishing said objective, stated  
as a set of rules, and,
- responsibility for attaining said objective and for performing said  
means,

to at least one specific actor, wherein each said specific actor  
inherits from all superior actors conditions as constraints, and  
actions as goals; and,  
passes upwards  
all actions as instantiations of conditions, and  
all information necessary for altering any objective when said  
objective does not conform to the real world;

and,  
internalizing feedback for both performance and process by incorporating  
into the method, so as to better match said process to the real world or to  
correct logical contradictions created or encountered by the method,  
means for:

- creating,
- differentiating,
- modifying, and
- deleting,

any objective, goal, constraint, set of rules, or rule, to produce a distinct  
new method lacking any logical contradiction;



means for storing said particular process knowledge, once transformed;  
means for accessing said particular process knowledge, once transformed;  
and  
means for modifying said particular process knowledge.

[33]28. [Amended] A method for inducing a business process from a set of defined conditions, constraints, rules, and elements comprising a model of the real world, said method comprising:

declaring an objective of said business process as a set of measurable goals and constraints;  
stating[, as a means for accomplishing said] for each objective, at least one set of rules:

wherein each rule in said set of rules contains both a condition governing that rule's actuation, and that rule's action when said condition is met; and

wherein said set of rules may act in any combination, subject to the limitation that the condition of a particular rule must be met before said particular action may occur;

testing each rule against conditions both internal and external to said business process, as such conditions exist in the real world, without specifying the order of testing, (unless the order becomes governed by the actuation of at least one rule whose precondition governing its actuation becomes satisfied);

actuating a rule when its condition is met; and,  
delegating

the objective as declared in a set of measurable goals and constraints,

the corresponding means for accomplishing said objective, stated as a set of rules, and,

responsibility for attaining said objective and for performing said means,  
to at least one specific actor, wherein each said specific actor inherits from all superior actors conditions as constraints, and actions as goals; and,  
passes upwards  
all actions as instantiations of conditions, and  
all information necessary for altering any objective when said objective does not conform to the real world;  
and,  
internalizing feedback for both performance and process by incorporating into the method, so as to better match said process to the real world or to correct logical contradictions created or encountered by the method,  
means for:  
creating,  
differentiating,  
modifying, and  
deleting,  
any objective, goal, constraint, set of rules, or rule, to produce a distinct new method lacking any logical contradiction;

[34]29. [Amended] A method as in Claim [33]28, for dynamically representing an business process induced by said method, further comprising:

creating and maintaining a dynamic and self-referential representation of said induced business process within said model; and,  
changing said dynamic and self-referential representation as and in accordance with each change in the set of defined conditions, constraints, rules, and elements comprising said model.

[35]30. A method as in Claim [21]16, for dynamically managing a business process, further comprising:

including at least one anticipatory defined condition, constraint, rule, or element, thereby creating a model of the world which is differentiated from the currently known state;

even if such anticipatory defined condition, constraint, rule, or element is neither based on any history, trend, or deductive reasoning approach, nor supported by any particular reason to believe it will occur, nor believed that such is needed.